Special Issue

Advances in Polymer Nanocomposites: Fabrication, Characterization and Multifunctional Applications

Message from the Guest Editors

Polymer nanocomposites are an important novel class of engineering materials in both everyday life and high-tech applications. The versality of the employed polymer matrices (thermoplastics, thermosets, elastomers, bio-polymers, polymer blends, etc.) and the reinforcing phases (inorganic/organic nanofibers, nanotubes, nanoparticles, 2D nanoinclusions, etc.) provides an enormous number of possible nanocomposites with properties which can be tailored or adjusted according to the applications' specifications. This Special Issue welcomes original research and review papers presenting experimental or theoretical/computational studies of all kinds of polymer-based nanocomposites. Design and fabrication, thermo-mechanical performance, fire retardants, biological systems, biomedical applications, electrical engineering devices, stimuli-responsive materials, smart materials, structure–properties relationships, polymer matrix nanocomposites and hybrids and all current and forthcoming applications comprise a short list of the possible subjects for this Special Issue.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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